

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P05-36	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2005/003214	International filing date (<i>day/month/year</i>) 25.02.2005	Priority date (<i>day/month/year</i>) 25.02.2004
International Patent Classification (IPC) or national classification and IPC G02B6/12 (2006.01), G02B6/13 (2006.01), C08F299/00 (2006.01), G03F7/004 (2006.01), G03F7/033 (2006.01)		
Applicant KANSAI PAINT CO., LTD.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>1</u> sheets, as follows: <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/003214

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-24 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 2-5 _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1 _____ received by this Authority on 23.02.2006
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/003214

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-5	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-5	NO
Industrial applicability (IA)	Claims	1-5	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
<p>Document 1: JP 2003-149475 A (Nippon Kayaku Co., Ltd.), 21 May 2003, paragraphs [0006] to [0026] (Family: none)</p> <p>Document 2: JP 2003-43684 A (Nippon Kayaku Co., Ltd.), 13 February 2003, paragraphs [0025] to [0026] and [0070] (Family: none)</p> <p>Document 3: JP 3-223759 A (Kansai Paint Co., Ltd.), 02 October 1991, entire text & EP 435262 A2 & US 5045434 A & KR 9401555 B & CA 2032630 A</p> <p>Document 4: JP 11-288088 A (Kansai Paint Co., Ltd.), 19 October 1999, entire text & US 6093518 A & TW 476020 B</p> <p>Claims 1 to 5</p> <p>The inventions set forth in claims 1 to 5 do not involve an inventive step in the light of documents 1, 3 and 4, which are cited in the international search report, and document 2, which is newly cited.</p> <p>Document 1 discloses a photocurable resin composition for forming optical waveguides which comprises at least a photoradical polymerization initiator, a solvent and an ethylenically unsaturated group-containing carboxylic acid resin that includes at</p>			

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	<p>least one ethylenically unsaturated group and at least one carboxyl group within the molecule; furthermore, document 1 also discloses optical waveguides that employ the composition in question. Notably, document 1 indicates that it is possible to add various epoxy resins to the aforementioned photocurable resin composition for forming optical waveguides, as necessary (refer to paragraphs [0022] and [0023]).</p> <p>Meanwhile, document 2 presents epoxy compounds as examples of hardening component (H), which is an optional component that can be used in a photosensitive resin composition for forming optical waveguides. Furthermore, the aforementioned hardening component (H) reacts with the residual carboxyl groups that remain upon the resin coating film after the photocuring process when heated, and thus it is preferable to employ the aforementioned hardening component (H) in order to obtain an even stronger hardened coating film (refer to paragraph [0025]). In addition, document 2 specifically presents bisphenol type epoxy resin compounds and novolak type epoxy resin compounds as examples of the epoxy compounds in question (refer to paragraph [0026] and the like).</p> <p>In the light of the abovementioned technical concept described in document 2, it would have been easy for a person skilled in the art to conceive of configuring so that the epoxy resin that is added to the photocurable resin composition for forming an optical waveguide, as necessary, in the invention disclosed in document 1 is a bisphenol type epoxy resin compound or a novolak type epoxy resin compound.</p> <p>In addition, claim 1 attempts to specify an object by means of the production method therefor. However,</p>

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/003214

Box No. V

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although claim 1 and document 1 disclose different methods for the production of carboxyl group-containing unsaturated resins, the carboxyl group-containing unsaturated resin (A) set forth in claim 1 and the ethylenically unsaturated group-containing carboxylic acid resin disclosed in document 1, which are obtained by means of these different methods, are substantially the same, and cannot be differentiated as resins.

Furthermore, the method for the production of the carboxyl group-containing unsaturated resin (A) set forth in claim 1 (which corresponds to the ethylenically unsaturated group-containing carboxylic acid resin disclosed in document 1) is also disclosed in documents 3 and 4. With regards to claims 3 and 5, configurations wherein a dry film is formed from a photocurable resin composition for forming optical waveguides are well known.